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10/736,446 12/15/2003		12/15/2003	Harry Schilling		5858-01800	3081
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DAFFER MCDANEIL LLP			•	WANG, QUAN ZHEN		
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DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)				
		10/736,446	SCHILLING, HARRY				
	Office Action Summary	Examiner	Art Unit				
		Quan-Zhen Wang	2613				
Period fo	The MAILING DATE of this communication app or Reply	ears on the cover sheet with the c	orrespondence address				
A SH WHIC - Exte after - If NC - Failu Any	ORTENED STATUTORY PERIOD FOR REPLY CHEVER IS LONGER, FROM THE MAILING DANS INSTRUCTION OF THE	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tin vill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).				
Status							
1)⊠	Responsive to communication(s) filed on 22 No.	ovember 2006.					
·	This action is FINAL . 2b)⊠ This action is non-final.						
3)	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is						
	closed in accordance with the practice under E	x parte Quayle, 1935 C.D. 11, 45	53 O.G. 213.				
Disposit	ion of Claims						
4)⊠	4)⊠ Claim(s) <u>1-8</u> is/are pending in the application.						
•/=	4a) Of the above claim(s) is/are withdrawn from consideration.						
5)□	Claim(s) is/are allowed.						
6)⊠	Claim(s) 1-8 is/are rejected.						
7)	Claim(s) is/are objected to.	•					
8)[Claim(s) are subject to restriction and/or	r election requirement.					
Applicat	ion Papers						
	The specification is objected to by the Examine	r					
	The drawing(s) filed on is/are: a) acce		Examiner				
	Applicant may not request that any objection to the						
	Replacement drawing sheet(s) including the correct						
11)[The oath or declaration is objected to by the Ex	* * * * * * * * * * * * * * * * * * * *	•				
Priority (under 35 U.S.C. § 119						
	Acknowledgment is made of a claim for foreign All b) Some * c) None of:	priority under 35 U.S.C. § 119(a))-(d) or (f).				
,	1. Certified copies of the priority documents have been received.						
	2. Certified copies of the priority documents have been received in Application No						
	3. Copies of the certified copies of the priority documents have been received in this National Stage						
	application from the International Bureau	ı (PCT Rule 17.2(a)).					
* See the attached detailed Office action for a list of the certified copies not received.							
Attachmen	t(s)		,				
	ce of References Cited (PTO-892)	4) Interview Summary					
	ce of Draftsperson's Patent Drawing Review (PTO-948) mation Disclosure Statement(s) (PTO/SB/08)	Paper No(s)/Mail Da 5) Notice of Informal P					
	er No(s)/Mail Date	6) Other:	F.F.				

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DETAILED ACTION

Claim Rejections - 35 USC § 112

- 1. The following is a quotation of the first paragraph of 35 U.S.C. 112:
 - The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
- 2. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites the limitation of "...the controller signaling, by means of a desired value, a predetermined data rate or package size a predetermined data rate or package size selectively either to the data source or to the optical transmitter." However, the instant specification does not disclose or teach the corresponding structures or materials to enable one skilled in the art to make and/or use the invention.

Claim 2 recites the limitation of "...the controller being disposed between the data source and the optical transmitter and converting the data of the data source in accordance with a desired value to a predetermined data rate or to packages of predetermined package size." However, the instant specification does not disclose or teach how does the controller convert the data to a predetermined "data rate" or "package size".

Claim 3 recites the limitation of "... the controller comprises means for ... issuing stored data at different data rates to the transmitter". However, the instant specification does not clearly disclose any structure of the claimed "means for issuing stored data at different data rates".

Claim 4 recites the limitation of "desired value is set by a desired-value setting-means according to the actually prevailing transmission characteristics of the data path between the optical transmitter and the optical receiver, or according to another measured parameter". However, the instant specification does not teach or disclose any "structures or materials" which corresponds to the claimed means.

Claim 5 recites the limitation of "an evaluation means is provided between the optical receiver and the data sink". However, the instant specification does not teach or disclose any "structure" which corresponds to the claimed means.

Claim 8 recited the limitation of "... forming a desired value of a data rate or data package size from the determined at least one parameter; setting a data rate or a size of data packages for transmission along the data path in accordance with the desired value; ...". However, the instant specification does not disclose or teach how to form "desired value of a data rate or data package size from the determined at least one parameter".

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation of "... the controller signaling, by means of a desired value, a predetermined data rate or package size selectively either to the data source or to the optical transmitter." However, it is not clear what the cited limitation means.

Claim 2 recites the limitation of "... the controller being disposed between the data source and the optical transmitter and converting the data of the data source in accordance with a desired value to a predetermined data rate or to packages of predetermined package size." However, it is not clear what it means by "converting the data of the data source in accordance with a desired value to a predetermined data rate or to packages of predetermined package size". It is not clear how can data be converted into packages of predetermined package size.

Claim 3 recites the limitation of "... the controller comprises means for ... issuing stored data at different data rates to the transmitter". However, it is not clear what it means by "issuing stored data at different data rates". It is not clear whether the controller controls the data storing means to write/read data at different rates (speeds) or controls the transmitter to transmit the data at different data rates.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-6 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guempelein et al. (U.S. Patent US 5,535,033) in view of Kocan et al. (U.S. Patent US 4,651,316).

Regarding claims 1, 2, and 8, as they are understood in view of the above 112 problems, Guempelein discloses a device (fig. 1) for broadband transmission of digital optical signals between at least one first unit and at least one second unit (fig. 1, combination of elements 10, 11, and 12) traveling relative to the first unit (fig. 1, combination of elements 4, 5, and 6) along a given track (column 2, lines 17-53), the device comprising, in association with the first unit: a data source (fig. 1, data source 6) for generating a serial data stream; an optical transmitter (fig. 1, transmitter 4) for generating optical signals from the serial data stream of the data source; an optical waveguide (fig. 1, fiber 2) for guiding the optical signals generated by the optical transmitter; and also comprising, in association with the second unit: a coupling element (fig. 1, device couple signal to detector) for tapping optical signals from the optical waveguide; an optical receiver (fig. 1, detector 10) for receiving the signals tapped by the coupling element; a data sink (fig. 1, data receiver 12) for further processing the signals received by the optical receiver. Guempelein differs from the claimed invention in that Guempelein does not specifically disclose a controller for controlling the data stream, the controller being disposed between the data source and the optical transmitter and converting the data of the data source in accordance with a desired

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value to a predetermined data rate or to packages of predetermined package size. However, a data transmission controller is well known in the art. For example, Kocan discloses a controller (fig.1, DTC 150, 151, and 152) controlling the data stream, the controller being disposed between the data source and the optical transmitter and converting the data of the data source in accordance with a desired value to a predetermined data rate or to packages of predetermined package size (column 5, lines 28-55 and column 9, lines 55-58). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a controller, such as the one disclosed by Kocan, in the system of Guempelein in order to control transfers of data packages to the transmitter.

Regarding claim 3, as it is understood in view of the above 112 problem, Kocan further discloses that the controller comprises means for storing data and for controlling the stored data to be transmitted at different data by the transmitter (column 5, lines 28-55 and column 9, lines 55-58).

Regarding claim 4, as it is understood in view of the above 112 problem, the modified system of Guempelein and Kocan differs from the claimed invention in that Guempelein and Kocan do not specifically disclose that the desired value is set by a desired-value setting-means according to the actually prevailing transmission characteristics of the data path between the optical transmitter and the optical receiver. However, Guempelein further teaches that the system is to provide a contactless data transmission device which permits data to be transmitted between system components which are movable relative to each other, in a manner which achieves a continuous

data connection, and which is constructed in a simple way and which is immune from interference. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to configure the system of Guempelein by a desired-value setting-means according to the actually prevailing transmission characteristics of the data path between the optical transmitter and the optical receiver in order to ensure a continuous data connection.

Regarding claim 6, the modified system of Guempelein and Kocan differs from the claimed invention in that Guempelein and Kocan do not specifically disclose that a microcontroller is provided for control and diagnosis of the device. However, Guempelein further teaches that the system is to provide a contactless data transmission device which permits data to be transmitted between system components which are movable relative to each other, in a manner which achieves a continuous data connection, and which is constructed in a simple way and which is immune from interference, and Kocan discloses a data transmission controller. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a microcontroller provided for control and diagnosis of the device in the modified system of Guempelein and Kocan in order to ensure a continuous data connection.

Regarding claim 7, the modified system of Guempelein and Kocan differs from the claimed invention in that Guempelein and Kocan do not specifically disclose that the device is self-learning and during operation dynamically adapts to currently prevailing operating conditions. However, Guempelein further teaches that the system is to

provide a contactless data transmission device which permits data to be transmitted between system components which are movable relative to each other, in a manner which achieves a continuous data connection, and which is constructed in a simple way and which is immune from interference. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to configure the device of Guempelein and Kocan to be self-learning and during operation dynamically adapts to currently prevailing operating conditions in order to ensure a continuous data connection and immune from interference.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guempelein et al. (U.S. Patent US 5,535,033) in view of Kocan et al. (U.S. Patent US 4,651,316) and further in view of Landis (U.S. Patent US 5,659,368).

Regarding claim 5, as it is understood in view of the above 112 problem, the modified system of Guempelein and Kocan differs from the claimed invention in that Guempelein and Kocan do not specifically disclose that an evaluation means is provided between the optical receiver and the data sink; the evaluation means has additional means for signaling incorrectly transmitted data to the controller by means of an auxiliary transmission channel; and the controller is adapted to repeat a transmission of incorrectly received data packages upon request by the evaluation means. However, it is well known in the art to use an evaluation means check the reception of the data and request a retransmission of incorrectly received data packages. For example,

ensure a continuous data connection and immune from interference.

request a retransmission of incorrectly received data packages (column 4, lines 55-63). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate an evaluation means check the reception of the data and request a retransmission of incorrectly received data packages, as it is disclosed by Landis, in the modified system of Guempelein and Kocan in order to

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Response to Arguments

- 8. Applicant's arguments regarding the claim rejection under 35 U.S.C. 112 filed November 22, 2006 have been fully considered but they are not persuasive.
- 9. <u>Claim rejections under 35 U.S. C. §112 first paragraph:</u>

Regarding the claim rejections under 35 U.S. C. §112 first paragraph, the law requires, "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in **such full, clear, concise, and exact terms** as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention." (emphasis added)

Instant specification does not provide written description in "<u>full, clear, concise,</u> and exact terms" to enable any person skilled in that art to make or used the claimed invention. For example, Claim 1 recites the limitation of "...the controller signaling, by means of a desired value, a predetermined data rate or package size a predetermined

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data rate or package size selectively either to the data source or to the optical transmitter." The instant specification does not provide any written description of the structures or materials in <u>full, clear, concise, and exact terms</u> to enable one skilled in the art to make and/or use the invention. Applicant listed several "means" that are used to provide various functions. However, where means plus function language is used to define the characteristics of a machine or manufacture invention, such language must be interpreted to read on only the structures or materials disclosed in the specification and "equivalents thereof" that correspond to the recited function. Two *en banc* decisions of the Federal Circuit have made clear that the USPTO is to interpret means plus function language according to 35 U.S.C. § 112, sixth paragraph. *In re* Donaldson, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994) (*en banc*); *In re* Alappat, 33 F.3d 1526, 1540, 31 USPQ2d 1545, 1554 (Fed. Cir. 1994) (*en banc*). Therefore, without proper disclosure or teaching of the corresponding structures or materials of the "means", the claim is non-enabling.

Regarding claim 2, the specification fails to disclose or teach how does the controller convert the data to a predetermined "data rate" or "package size". Applicant argues, "Applicants assert that the present specification does disclose to a skilled artisan without undue experimentation how a controller can change the data rate or package size of data transmitted across waveguide 3 based on readings taken from evaluation means 8 or presented on a display. For example, a skilled artisan would certainly know that clock rates can be changed and the package size or size of bit groupings (or packets) can change depending on readings taken from means 8 and

Presented to controller 7, which regulates or modulates based on those readings."

However, the argument still does not cure the defect of the lack of description of the claimed invention. In addition, it should be noted that it is not opinion evidence directed to the ultimate legal question of enablement, but rather **factual evidence** directed to the amount of time and effort and level of knowledge required for the practice of the invention from the disclosure alone which can be expected to rebut a prima facie case of non-enablement. See Hirschfield, 462 F. Supp. at 143, 200 USPQ at 281.

Furthermore, The term "data" is not analogous to "data rate". Just as one cannot convert "energy" to "power", one cannot covert "data" to "data rate". One cannot convert "data" to "packages of predetermined package size" either.

Regarding claim 3, the instant specification does not clearly disclose any structure of the claimed "means for issuing stored data at different data rates". Where means plus function language is used to define the characteristics of a machine or manufacture invention, such language must be interpreted to read on only the structures or materials disclosed in the specification and "equivalents thereof" that correspond to the recited function. Two *en banc* decisions of the Federal Circuit have made clear that the USPTO is to interpret means plus function language according to 35 U.S.C. § 112, sixth paragraph. *In re* Donaldson, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994) (*en banc*); *In re* Alappat, 33 F.3d 1526, 1540, 31 USPQ2d 1545, 1554 (Fed. Cir. 1994) (*en banc*). Applicant argues, "Data rates can easily change based on a change in the sampling clock which forwards such data rates, as well known to a skilled artisan when directed by the present specification. Importantly, however, the

data rates are changed and, more specifically, the stored data is issued at different data rates depending on readings taken from evaluation means 8." The argument is not supported by any **objective factual evidence**.

Regarding claim 4, Applicant argues, "the desired value setting means is disclosed to a skilled artisan as any hardware or software, fuzzy logic, circuitry, or microcontroller that receives an input from". However, the law requires, "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention." (emphasis added). The instant specification does not provide description of the structures or materials in full, clear, concise, and exact terms to enable one skilled in the art to make and/or use the invention. In addition, where means plus function language is used to define the characteristics of a machine or manufacture invention, such language must be interpreted to read on only the structures or materials disclosed in the specification and "equivalents thereof" that correspond to the recited function. Two en banc decisions of the Federal Circuit have made clear that the USPTO is to interpret means plus function language according to 35 U.S.C. § 112, sixth paragraph. In re Donaldson, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994) (en banc); In re Alappat, 33 F.3d 1526, 1540, 31 USPQ2d 1545, 1554 (Fed. Cir. 1994) (en banc). Therefore, without proper disclosure or teaching of the corresponding structures or materials in full, clear,

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concise, and exact terms to enable one skilled in the art to make and/or use the invention, the claim is non-enabling.

Regarding claims 5 and 8, Applicant argues, "it is clear throughout the present specification what is meant by evaluation means", and states, "evaluation means 8 is set forth in the drawings as well as the written text of the specification." However, the evaluation means 8 provided in the instant specification is nothing more than a rectangle in fig. 1 and one sentence on page 3, lines 13-15, namely, "The signals tapped by the coupling element are guided via an optical receiver 5 and an evaluator means 8 to a data sink 6." It is clear that the instant specification fails to provide any written description of the structures or materials in <u>full, clear, concise, and exact terms</u> to enable one skilled in the art to make and/or use the invention. Therefore, the claim is non-enabling.

Applicant argues that the specification "preferably omits what is well known in the art". However, any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of Mineral Separation v. Hyde, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In re* Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Accordingly, even though the

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statute does not use the term "undue experimentation," it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation. In re Wands, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988). See also United States v. Telectronics, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988) ("The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation."). Applicant states, "If the level of one of ordinary skill is quite high and the level of predictability in the art is also high, the amount of experimentation needed to make or use the invention might be quite low, even if the specification provides minimal direction and guidance." However, Applicant fail to provide objective factual evidence for the statement. It should be noted also that it is not opinion evidence directed to the ultimate legal question of enablement, but rather factual evidence directed to the amount of time and effort and level of knowledge required for the practice of the invention from the disclosure alone which can be expected to rebut a prima facie case of non-enablement. See Hirschfield, 462 F. Supp. at 143, 200 USPQ at 281.

For the above reasons, the rejections of claims 1-8 under 35 U.S. C. §112 first paragraph still stand.

10. Claim rejections under 35 U.S. C. §112 second paragraph

Regarding the claim rejections under 35 U.S. C. §112 second paragraph, the law requires, "The specification shall conclude with one or more claims particularly

pointing out and distinctly claiming the subject matter which the applicant regards as his invention." (emphasis added).

Regarding claim 1, the cited limitation of "...the controller signaling, by means of a desired value, a predetermined data rate or package size a predetermined data rate or package size selectively either to the data source or to the optical transmitter" is indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example, the "desire value" is not clearly described or defined in the specification. Applicant argues that "the streaming value output from the source/transmitter is known as a "desired" value. But what is "the streaming value"? Applicant also pointed to page 5, lines 18-24. However, the specification on page 5, lines 18-24 reads: "In a further advantageous embodiment of the invention, a desired-value setting- means is provided for setting the desired value and optionally adapting the setting of the desired value dynamically during operation of the device according to the characteristics of the transmission path, such as, for example, the transmission quality, bit error rate, and signal-to-noise difference, or simply on the basis of the position of the two traveling units relative to each other, or of time." The cited specification does not define what the "desire value" is. In addition, the terminology "a predetermined data rate" is not clearly described or defined in the specification. Furthermore, it is not clear what the "package size" means, because "package size" could be refer to both a group of data bits and the physical dimensions of a system. Without <u>clearly and concisely</u> define what the "package size" refers to, the claim is considered as indefinite.

Regarding claim 2, it is not clear how to convert "data ... to a predetermined data rate or packages of predetermined package size". The term "data" is not analogous to "data rate". Just as one cannot convert "energy" to "power", one cannot covert "data" to "data rate". One cannot convert "data" to "packages of predetermined package size" either.

Regarding claim 3, Applicant argues, "claim 3 makes clear that in the embodiment claimed, it is the controller that "by itself formats and converts the data" (Specification -- pg. 3, line 30). Thus, the controller itself can perform the encoding, according to this embodiment, and perform the data transfer operations at different rates (speeds), and the transmitter can operate passively to merely relay that data. However, the argument is not reflected in the claim. Limitations appearing in the specification but not recited in the claim should not be read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). *In re* Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969).

For the above reasons, the rejections of claims 1-7 under 35 U.S. C. §112 second paragraph still stand.

11. Applicant's other arguments filed on November 22, 2006 have been considered but are most in view of the new ground(s) of rejection.

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Conclusion

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- 12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Glen et al. (U.S. Patent US 6,208,784 B1) discloses a fiber optical multiple access system wherein the information can be accessed using a slidably mounted optical tap at different position of the hollow waveguide. Harrison et al. (U.S. Patent US 6,396,613 B1) disclose an optical high speed communications for a computed tomography X-ray machine to reliably transmit high data rate data. Lohr et al. (U.S. Patent US 6,650,843 B1) disclose a device for providing optical signal transmission between a transmitter unit and a receiving unit which is mobile relative to the transmitter unit.
- 13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM 5:00 PM, Monday Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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qzw 12/5/2006

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